

Lake Name: Buffalo
DOW Number: 51-0018-00

Survey Type: Standard Survey
Survey ID Date: 06/14/2021

Lake Identification

Alternate Lake Name: N/A
Primary Lake Class ID: 43

DNR Sounding Map Number: N/A
Alternate Lake Class ID: N/A

Lake Location

Primary County: Murray

Nearest Town: Dovray

Legal Descriptions

Lake Center: Township - 107N Range - 39W Section - 18
PLS Section Lake Center: 10703918

All Legal Descriptions:

Murray County: Township - 107N Range - 39W Sections - 7, 18
Township - 107N Range - 40W Section - 13

Area Office

Area Name: Windom
Region Name: Southern

ORG Code: F418
Region Number: 4

Lake Access

(Information based on Initial Survey dated 06/28/1993)

Station ID	Ownership	Public Use	Type	Location / Comments
AC - 1	DNR	Open to Public use	Concrete	T107N; 40W; S13. Access was purchased by Trails and Waterways in 1992. Located on Southwest side of the lake.

Lake Characteristics

Lake Area (planimetered acres): 124.00	GIS Shoreline Length (miles): 1.63
GIS Lake Area (acres): 126.90	Maximum Fetch (miles): 0.58
DOW Lake Area (acres): 124.00	Fetch Orientation (degrees): 90
Littoral Area (acres): 126.90	USGS Quad Map Number: V07d
Area in MN (acres): 126.90	USGS Quad 24K GIS Index: 4314
Maximum Depth (feet): 8.5	
Mean Depth (feet): N/A	

Watershed Characteristics

Major Watershed

Name: Des Moines-Headwaters
Watershed Number: 51
Watershed size (acres): 798,595

Minor Watershed

Name: unknown DNR Minor Wshd
Watershed Number: 80
Watershed size (acres): 9,204

Surveys and Investigations

Initial Survey: 06/28/1993.
Re-Survey: 06/30/2003.
Population Assessment: 06/29/2009, 06/22/1998.
Winter Kill Assessment: 04/20/2010.
Dissolved Oxygen Check: 02/16/2016, 02/18/2015, 12/31/2013, 01/02/2013, 01/11/2012, 12/28/2010, 01/04/2010.
Standard Survey: 06/29/2015.
Targeted Survey: 02/05/2020, 01/18/2018, 06/29/2015.

Water Level History - Readings

Station ID	Date	Level	Reading (feet)	Reading Type
BM - 1	06/29/2015	N/A	N/A	Not Found
	07/01/2009	High	N/A	Above or below Benchmark

Water Level History - Station Summary

Station ID	Minimum Level		Maximum Level		Range (feet)	Average Level (feet)	Reading Type (and number of readings)
	Feet	Date	Feet	Date			
BM - 1	N/A	N/A	N/A	N/A	N/A	N/A	Above or below Benchmark (0)
BM - 1	N/A	N/A	N/A	N/A	N/A	N/A	Not Found - 06/29/2015 (0)

Dissolved Oxygen and Temperature Profile of Lake Water

Station ID	Sampling Date	Bottom Depth (Feet)	Sample Depth (Feet)	Water	Dissolved
				Temperature (°F)	Oxygen (ppm)
WQ - 1	06/14/2021	6.7	Surface	78.4	8.2
			1.0	77.7	7.8
			2.0	77.0	7.1
			3.0	76.8	7.0
			4.0	76.6	6.6
			5.0	76.6	6.2
			6.0	76.5	5.7

Field Measurements of Water Quality

Station ID	Sampling Date	Sample Depth (Feet)	Secchi Depth (Feet)	Field pH	Alkalinity (ppm)	Water Color	Color Cause
WQ - 1	06/14/2021	Surface	1.0	8.27	240	Green	Algae

Net Catch Summary by Numbers for GN

Standard gill net sets

Number of Sets: 2
 First Set Date: 06/14/2021
 Last Lift Date: 06/16/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	626	313.00	30.34	75.58	150.62
BLC	Black Crappie	32	16.00	1.41	3.71	13.75
NOP	Northern Pike	31	15.50	1.08	3.00	8.00
WAE	Walleye	1	0.50	2.28	6.83	18.06
YEP	Yellow Perch	7	3.50	2.65	8.00	25.00
Total Fish/Set:			348.50	* Quartiles for Number Per Set		

Net Catch Summary by Weight for GN

Standard gill net sets

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 43*		
					25%	50%	75%
BLB	Black Bullhead	104.61	52.31	0.17	0.17	0.26	0.39
BLC	Black Crappie	15.71	7.85	0.49	0.16	0.25	0.35
NOP	Northern Pike	94.78	47.39	3.06	1.82	2.50	3.35
WAE	Walleye	2.43	1.21	2.43	1.01	1.53	2.30
YEP	Yellow Perch	0.91	0.45	0.13	0.13	0.21	0.31
Total Pounds Fish/Set:			109.22	* Quartiles for Mean Weight			

Net Catch Summary by Numbers for TN

Standard 3/4-in mesh, double frame trap net sets

Number of Sets: 8
 First Set Date: 06/14/2021
 Last Lift Date: 06/17/2021
 Target Species: N/A

Abbr	Species	Total Fish	Number Per Set	Quartiles for Lake Class 43*		
				25%	50%	75%
BLB	Black Bullhead	3,248	406.00	11.50	42.00	132.61
BLC	Black Crappie	69	8.63	1.17	4.88	20.50
NOP	Northern Pike	40	5.00	N/A	N/A	N/A
Total Fish/Set:			419.63	* Quartiles for Number Per Set		

Net Catch Summary by Weight for TN

Standard 3/4-in mesh, double frame trap net sets

Abbr	Species	Total Weight (Pounds)	Pounds Per Set	Mean Weight	Quartiles for Lake Class 43*		
					25%	50%	75%
BLB	Black Bullhead	942.43	117.80	0.29	0.18	0.28	0.40
BLC	Black Crappie	43.56	5.44	0.63	0.22	0.34	0.50
NOP	Northern Pike	136.37	17.05	3.41	N/A	N/A	N/A
Total Pounds Fish/Set:			140.29	* Quartiles for Mean Weight			

Length Frequency Distribution for GN

Standard gill net sets

(Field work conducted between 06/14/2021 and 06/16/2021)

	<u>BLB</u>	<u>BLC</u>	<u>NOP</u>	<u>WAE</u>	<u>YEP</u>
< 3.00	-	-	-	-	-
3.00 - 3.49	-	-	-	-	-
3.50 - 3.99	-	-	-	-	-
4.00 - 4.49	-	-	-	-	-
4.50 - 4.99	-	-	-	-	-
5.00 - 5.49	112	-	-	-	-
5.50 - 5.99	161	-	-	-	2
6.00 - 6.49	31	-	-	-	-
6.50 - 6.99	77	-	-	-	2
7.00 - 7.49	93	-	-	-	3
7.50 - 7.99	64	-	-	-	-
8.00 - 8.49	54	2	-	-	-
8.50 - 8.99	23	7	-	-	-
9.00 - 9.49	8	12	-	-	-
9.50 - 9.99	1	4	-	-	-
10.00 - 10.49	1	1	-	-	-
10.50 - 10.99	-	2	-	-	-
11.00 - 11.49	1	-	-	-	-
11.50 - 11.99	-	3	-	-	-
12.00 - 12.99	-	1	-	-	-
13.00 - 13.99	-	-	-	-	-
14.00 - 14.99	-	-	-	-	-
15.00 - 15.99	-	-	-	-	-
16.00 - 16.99	-	-	-	-	-
17.00 - 17.99	-	-	-	-	-
18.00 - 18.99	-	-	2	1	-
19.00 - 19.99	-	-	4	-	-
20.00 - 20.99	-	-	1	-	-
21.00 - 21.99	-	-	5	-	-
22.00 - 22.99	-	-	2	-	-
23.00 - 23.99	-	-	2	-	-
24.00 - 24.99	-	-	2	-	-
25.00 - 25.99	-	-	4	-	-
26.00 - 26.99	-	-	-	-	-
27.00 - 27.99	-	-	2	-	-
28.00 - 28.99	-	-	2	-	-
29.00 - 29.99	-	-	2	-	-
30.00 - 30.99	-	-	-	-	-
31.00 - 31.99	-	-	2	-	-
32.00 - 32.99	-	-	1	-	-
33.00 - 33.99	-	-	-	-	-
34.00 - 34.99	-	-	-	-	-
35.00 - 35.99	-	-	-	-	-
= > 36.00	-	-	-	-	-
	<u>BLB</u>	<u>BLC</u>	<u>NOP</u>	<u>WAE</u>	<u>YEP</u>
Total	626	32	31	1	7
Min. Length	5.04	8.27	18.70	18.90	5.91
Max. Length	11.02	12.48	32.68	18.90	7.36
Mean Length	7.25	9.62	24.27	18.90	6.78
# Measured	174	32	31	1	7
No Lengths for	452	0	0	0	0

Note: Unless all fish were measured in the catch, totals shown for some length-frequency distributions may differ from the total number of fish in the catch, due to rounding of fractions used in the estimation of length frequency from a subsample of measured fish

Length Frequency Distribution for TN

Standard 3/4-in mesh, double frame trap net sets

(Field work conducted between 06/14/2021 and 06/17/2021)

	<u>BLB</u>	<u>BLC</u>	<u>NOP</u>
< 3.00	-	-	-
3.00 - 3.49	-	-	-
3.50 - 3.99	-	-	-
4.00 - 4.49	-	-	-
4.50 - 4.99	-	-	-
5.00 - 5.49	59	-	-
5.50 - 5.99	47	-	-
6.00 - 6.49	12	-	-
6.50 - 6.99	200	-	-
7.00 - 7.49	341	2	-
7.50 - 7.99	612	-	-
8.00 - 8.49	513	-	-
8.50 - 8.99	243	2	-
9.00 - 9.49	235	7	-
9.50 - 9.99	47	10	-
10.00 - 10.49	38	7	-
10.50 - 10.99	21	3	-
11.00 - 11.49	-	9	-
11.50 - 11.99	-	9	-
12.00 - 12.99	16	7	-
13.00 - 13.99	-	-	-
14.00 - 14.99	-	-	-
15.00 - 15.99	-	-	2
16.00 - 16.99	-	-	1
17.00 - 17.99	-	-	-
18.00 - 18.99	-	-	2
19.00 - 19.99	-	-	1
20.00 - 20.99	-	-	-
21.00 - 21.99	-	-	2
22.00 - 22.99	-	-	4
23.00 - 23.99	-	-	4
24.00 - 24.99	-	-	4
25.00 - 25.99	-	-	2
26.00 - 26.99	-	-	2
27.00 - 27.99	-	-	-
28.00 - 28.99	-	-	-
29.00 - 29.99	-	-	3
30.00 - 30.99	-	-	-
31.00 - 31.99	-	-	2
32.00 - 32.99	-	-	3
33.00 - 33.99	-	-	1
34.00 - 34.99	-	-	1
35.00 - 35.99	-	-	-
= > 36.00	-	-	-

	<u>BLB</u>	<u>BLC</u>	<u>NOP</u>
Total	2384	56	34
Min. Length	5.12	7.09	15.67
Max. Length	12.01	12.99	34.45
Mean Length	8.00	10.54	24.97
# Measured	125	56	34
No Lengths for	3123	0	2

Note: Unless all fish were measured in the catch, totals shown for some length-frequency distributions may differ from the total number of fish in the catch, due to rounding of fractions used in the estimation of length frequency from a subsample of measured fish

Other Species

Gear Type (1)	Other Species (Gender) (2)	Total Num	Number Measured	Length (inches) Min - Mean - Max	Number Weighed	Weight (pounds) Min - Mean - Max
TN	Painted Turtle	7	0	N/A	0	N/A

(1) Key to sampling gear abbreviations:

TN = Standard 3/4-in mesh, double frame trap net sets

(2) Gender: If identified and reported.

Approval Dates And Notices

Date Approved By Windom Area Fisheries Supervisor: _____

Date Approved By Southern Region Fisheries Manager: _____

This DRAFT VERSION of the Lake Survey Report contains preliminary data (as of 06/17/2021), and is therefore subject to change at any time.



Minnesota Department of Natural Resources



By accepting the data in this report, the user agrees the data will be used for personal benefit and not for profit. Any other uses or publication of the data needs the consent of the Department. The Minnesota Department of Natural Resources assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on the data.

Lake Survey Report revision: 20210209-RJE. Data Date: 06/17/2021 at 2:15 pm .

REPORT OVERVIEW - FOR OFFICE USE ONLY

(This page is not part of the Lake Survey Report and should be discarded)

Lake Name: Buffalo
DOW Number: 51-0018-00

Survey Type: Standard Survey
Survey ID Date: 06/14/2021

Survey Status: Proposed

The following 22 (of 33) report components are not included in this Lake Survey Report:

1. Current Water Level
2. Benchmark And Gauge Descriptions / Locations
3. Water Level History¹
4. Lake Inlets
5. Additional Inlet Information
6. Lake Outlets
7. Additional Outlet Information
8. Water Control Structure (Dam)
9. Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations²
10. Resorts And Campgrounds
11. Fish Spawning Conditions
12. Erosion And Pollution
13. Fish Diseases And Parasites
14. Aquatic Vegetation And Shoalwater Substrates
15. Water Quality (Winter Observations) (added to revision 01/21/2010)
16. Laboratory Analysis Of Water Chemistry
17. Catch Summary (Pre-1993 Format) (added to revision 20201001)
18. Length At Capture With Last Incremental Length*
19. Back-Calculated Lengths
20. Age Class Frequency Distributions
21. Status Of Fishery And Field Notes
22. Survey Attachments (added to revision 20150622)

¹ Water Level History report: This data has not yet been migrated into the Fisheries LSM database. On 01/08/2009, two additional Water Level History report components (Readings and Station Summary) were added.

² Effective 03/25/2014, the Surrounding Watershed Characteristics, Shoreline Characteristics, and Riparian Landscape Observations report component was modified to be included in the Lake Survey report if it did not include any Watershed and Shoreline characteristics and only consisted of Riparian Landscape Observations.

* Length At Capture With Last Incremental Length report: The following criteria must be met for a report to be generated:

1. The fish species must have an assigned body scale constant.
2. Fish must have an "official" age assigned.
3. Fish must have a digitized measurement marked for back calculation use.

Note: The data source for Length and Age Class Frequency Distribution tables is updated twice daily - once at noon and once overnight. Any changes to the data made after noon on 06/17/2021 may not be reflected in the Distribution tables until 06/18/2021.

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